



सत्यमेव जयते

SCRAP COMMITTEE REPORT

1962



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Government of India
Ministry of Steel and Heavy Industries
(Department of Iron & Steel)

CHAPTER I

A Committee consisting of the following members was appointed by the Secretary, Steel, Mines and Fuel Ministry on 29th April 1961 :—

Shri A. N. Banerjee, Iron & Steel Controller—*Chairman*.

Shri N. R. Reddy, Dy. Secretary, Ministry of Commerce and Industry—*Member*.

Shrimati D. Kumar, Officer on Special Duty, Economic Division, Ministry of Finance—*Member*.

Shri C. J. Shah, Development Officer, Metals, Metals Directorate, New Delhi—*Member*.

Shri P. R. Nair, Dy. Iron and Steel Controller—*Member Secretary*.

The terms of reference of the Committee were :—

1. To ascertain the quantum of probable arisings of different grades of scrap in various regions in the next five years;
2. Study the use, current and prospective, of scrap within the country in the same period;
3. Study the existing system of distribution and suggest improvements that could be made to it;
4. Study the present system of price control on scrap and need for its continuance;
5. Examine the possibilities of export of different grades of scrap and the licensing policy that should be pursued; and,
6. Examine the need for imports of scrap to meet the requirements of actual users.

Questionnaires were sent out to all the important consumers of melting scrap and to all major controlled sources of scrap; and replies were received from most of them. The Committee also held meetings in Calcutta, Bombay, Madras and Delhi where the representatives of the Railways, the Ordnance Factories, the Main Producers, the Furnaces and Foundries, the Scrap Traders and the Directors of Industries of certain States were interviewed. A full list of the people interviewed by the Committee is given in Appendix I.

There have been previous reports on Scrap, the most recent one being that of the Kapur Committee appointed on 22nd May, 1956. No specific terms of reference were laid down for this Committee but it was asked to make its investigations as comprehensive as possible and to give an estimate of the requirements of melting scrap as well as the arisings over the next five years, the organisation of scrap collection in India, and the export policy regarding scrap and the scrap industry. The main findings of the Committee were as follows :—

- (i) The total demand of melting scrap in 1956 was 1,34,200 tons, this was expected to go up to 3,05,300 tons in 1961;
- (ii) The total arisings of scrap would be 2,00,000 tons in 1957, rising to 2.65 lakh tons in 1961;

- (iii) The export of types of scrap which could not be utilised in the country, such as 2, 2A and 3 Sheet Cuttings should be continued till the scrap processing industry was sufficiently developed to process the scrap for internal consumption. On the other hand, the export of heavy melting scrap should continue to be banned.

The Committee wish to thank the various Organisations and Associations—the Steel Re-Rolling Mills Association of India, 20 Strand Road, Calcutta, The Indian Foundries Association, India Exchange, (7th floor), India Exchange Place, Calcutta, All India Iron and Steel Stockholders Federation, Delhi Scrap Traders and Exporters Association, Bombay, Steel Furnaces Owners' Association, Bombay, All India Auto Manufacturing Association, Bombay, Madras Circle Scrap Dealers' Association—as well as the several individuals who supplied the Committee with valuable information. The Committee also expresses its gratitude to the Executive Vice-President, Institute of Scrap Iron and Steel Inc., 1729 H. St., North-West, Washington-6, D. C., The executive Director, Canadian Secondary Materials Association, Suite 709, 100, Adelaide Street, West Toronto Ontario, Canada, The Information Officer, British Iron and Steel Federation, Steel House, London S. W. 1, who sent the Committee literature regarding the collection and utilisation of scrap in the U. S. A., Canada and the U. K. Finally the Committee is very grateful to the officers of the Department of Iron and Steel and the Iron and Steel Control for the help given by them.



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CHAPTER II

THE PRESENT POSITION

Steel Scrap is the second major raw material of the steel industry; it can be used to a varying extent depending on the process used as a substitute for the main raw material, basic pig iron from the blast furnaces. Scrap conserves not only iron ore but also coal and limestone; it has been estimated that in America every ton of scrap used to make steel conserves $3\frac{1}{2}$ to 4 tons of other natural resources, including iron ore, coal and limestone.

Scrap has been defined concisely as "all iron and steel that has outlived its effective purpose". The Iron and Steel (Control) Order, 1956 defines scrap thus, "scrap means all iron or steel material which is commonly known as scrap and include defective iron or steel material whether it is suitable only for re-rolling or re-melting or can be used for other purposes". It is difficult, if not impossible to give a more exact definition of scrap.

Scrap can, however, be classified in a variety of ways, either according to its source or according to the end use, or according to physical specifications. Thus, scrap arises in three ways, or rather at three different stages in steel making and processing. First, in the process of making or shaping steel itself in a steel works, scrap arises in such forms as crop ends of billets, blooms, structurals, etc. That part of this scrap which is charged back into the furnaces is known as 'home', 'revert' or 'circulating' scrap. The names 'revert' or 'circulating' scrap point to the fact that this scrap is generally consumed in the steel mills itself to make more steel; however, all the scrap arisings within a steel mill are not necessarily consumed by the mill itself. For technical or economic reasons the steel plants may prefer to sell certain types for fabrication and re-rolling. At the next stage, when the steel is sent to factories for making into steel products, the material left over after making the various products is known as "process" scrap. Finally, after the steel product has been used and is discarded, it forms "obsolescent" or "capital" scrap. Capital scrap may range from tin cans to steel girders or ships. In India the railways are the chief source of capital scrap. These broad categories can, of course, be further broken up; for instance, one form of scrap is skull scrap. When the steel is tapped from the furnace into the ladle certain amount of steel sticks to the ladle and is known as skull scrap. This form of scrap is difficult to break and handle but has recently found a good market abroad and in India. Again, ingot moulds which are discarded after the steel ingots have been made, can be regarded as a form of capital scrap. The ingot moulds are made of cast iron, and there are also other types of cast iron scrap such as wheels, cast iron parts of machinery, and so on.

Scrap can also be classified according to the end use, the three broad categories being melting scrap, re-rolling scrap and industrial scrap. Industrial scrap consists of all those varieties which can be directly used for fabrication. Thus, this category include sheet and plate cuttings which can be utilised for the manufacture of utensils, buckets etc., as well as usable defectives of all categories of steel, such as defective pipes. This type of scrap is used

mainly by the small scale industries in India, and is chiefly used for the fabrication of consumer goods. In fact, the term 'industrial scrap' is used in other countries only as a synonym for process scrap.

Re-rolling scrap consists of other varieties of scrap such as billets ends which can be re-rolled by the re-rollers into various products, such as bars and rods, angles etc.

Scrap which does not fall into either of these two categories, but which can be charged into the furnaces for melting is called melting scrap. These types of scrap—melting scrap, re-rollable scrap and industrial scrap—can be further sub-divided according to certain physical or other specifications. A very detailed system of specification is possible, but the degree of detail necessary will depend upon the use to which the scrap is to be put. In India, the standard classification of scrap is considerably less detailed than would be accepted in more advanced countries. The standard specification laid down by the Iron & Steel Controller are set out in Appendix II but for the purpose of this report, broad classification of steel scrap into melting scrap, re-rollable scrap and industrial scrap, has generally been found sufficient. Where more details are necessary, the categories of the Iron and Steel Control have been used.

The task of collection from the various sources and of distribution to the various consumers is performed by the scrap traders. In advanced countries, scrap collection and distribution forms a specialised trade. In America, for example, there are some 2,000 individual companies which collect, process and distribute steel scrap. The scrap trade is fairly new in India, and is not yet as highly organised. The melting scrap trade is concentrated in Calcutta, Bombay and Madras, partly because these are ports, and partly because they are centres of industry. The main trade organisation is the Scrap Traders and Exporters Association of India.

The dealers collect the scrap from the various non-controlled sources—the controlled sources being, the main producers, secondary steel producers, the electric furnaces, and the various engineering industries such as a automobile and machinery manufacturers. They have also organised a net-work of junk dealers to collect capital scrap from yards, rubbish heaps, homes, etc. This scrap is then sold to domestic consumers or exported. The main domestic consumers are the main producers, electric furnaces and steel foundries, the re-rolling mills and small scale industries. Our entire exports are to Japan.

Both the distribution and prices, as well as the exports, of scrap are controlled. While the price control applies to all sources, distribution control applies only to controlled sources. The controlled sources are those which have been designated as such under the Iron and Steel (Control) Order, 1956, and include the Controllers of Stores of the Railways, the Ordnance Factories and the docks; the secondary and main steel producers, and Re-Rollers, Engineering Factories, etc., of a fairly large size.

For the purpose of distribution and price control scrap is divided into the three categories, industrial, re-rollable and melting scrap. For the distribution of industrial scrap, controlled scrap stockists have also been designated. The chief sources of industrial scrap are the main producers, the Tin Plate Company and the Indian Steel and Wire Products, Jamshedpur. The Iron and Steel Controller estimates the annual arisings from these sources and fixes quotas for

the various states. The State Steel Licensing Authorities are then asked to forward indents from the Controlled Scrap Stockists in each State to the producers who supply the scrap direct to the stockists against recommendations made by the State Steel Licensing Authority. The State Steel Licensing Authority may also recommend the supply of scrap directly to fabricators. Scrap from the above sources is supplied to both the fabricators and steel stockists at f.o.r. destination price.

Arisings of industrial scrap from the other controlled sources, such as re-rolling mills, the railways, engineering workshops etc., must be supplied to the Controlled Stockists near the source of supply on the basis of standing instructions issued by the Iron and Steel Controller. The Controlled sources have to offer their arisings to stockists by rotation. If the stockists do not lift the materials inspite of two offers, the controlled sources can dispose of the stocks by public auction or to customers of their choice, provided the selling price does not exceed the controlled price. The scrap stockists, again can only sell scrap against permits issued by the State Steel Licensing Authority, but these permits must be issued within 60 days, failing which the scrap stockists can dispose of the scrap to customers of their choice at the controlled rate. With the improvement of the supply position, the scrap stockists have been authorised to dispose of 50 per cent of the receipts of certain sections of defective steel material without permits, and from 15th February 1961 the waiting period for the remaining 50 per cent has also been reduced to 30 days.

The controlled sources have to send their arisings of re-rollable scrap to the Steel Re-Rolling Mills Association, Calcutta, whose membership covers almost all recognised scrap re-rolling mills. The Association makes recommendations to the Steel Control regarding distribution of scrap to its members, after scrutiny of which the Iron and Steel Controller makes allocations to the re-rollers. Allocations are also made to re-rolling mills which are not members of the Association.

The main producers consume most of the arisings of melting scrap, but if there is a surplus of skull scrap it must first be offered to Hindustan Steel Limited. If the scrap is refused by Hindustan Steel it can be disposed of elsewhere. The railways are normally allowed to supply a portion of their melting scrap to the electric furnaces making stores for the railways. The balance is allotted to the steel plants and the electric furnace owners by the Iron and Steel Control. There is no direct control over the distribution of the arisings of melting scrap from non-controlled sources and these are normally disposed of by them direct to customers of their choice.

There is no control over the distribution of cast iron scrap, apart from ingot moulds. The producers cannot dispose of ingot moulds, which are treated more or less on a par with pig iron, except against the authorisation of the Iron and Steel Controller. Ingot moulds are released to foundries which are willing to accept them in lieu of pig iron; till very recently the only supplier of ingot moulds has been Tata Iron and Steel Co., but now the public sector steel plants have also started to sell some ingot moulds.

PRICE CONTROL

All transactions in scrap must take place at prices fixed by the Iron and Steel Controller. The present controlled prices were fixed by price Circular No.

10 of 1960 dated 24th December 1960 (Please see Appendix III). The prices of the main varieties are as follows:

Category	Price per M/Ton
Heavy Melting Scrap	Rs. 98 per m. ton.
No. 1 Sheet Cuttings No. 2, 2A and 3 ..	Rs. 89 per m. ton.
Turnings and Borings	Rs. 25 per m. ton.
Steel Skull	Rs. 98 (unbroken) Rs. 148 (broken & processed).
Ingot Moulds	Rs. 138 (7 to 9 tons). Rs. 148 (1 ton and under).
Cast Iron Skull	Rs. 84 (unbroken and unprocessed 7 to 35 tons). Rs. 133 (broken and processed 7 tons and under).

Export Control

Exports of scrap are also controlled, in order to ensure that the needs of the domestic industry are fully met. Under the export policy laid down on 25th July 1961, exports of certain qualities of scrap are completely banned, including heavy melting scrap and stainless steel scrap. There is also a ban on the export of No. 1 quality sheet cuttings, except that as an export incentive, exporters shipping Nos. 2, 2A and 3 quality sheet cuttings, will be allowed to ship 5 per cent in the form of No. 1 quality sheet cuttings. Even this, however, is subject to the conditions that the exporter obtains a 'no objection' letter from the furnace owner to whom must offer the scrap. Exports of other qualities, such as Nos. 2, 2A and 3 qualities sheet cuttings, and borings and turnings, are not subject to quantitative controls. However, according to the latest policy directive, the exporters must supply a certain proportion of their exports of these varieties in the form of heavy melting scrap to the nominees of the Iron and Steel Controller at the controlled prices. Again, the export of steel skull scrap is permitted only where the material has been offered first to Hindustan Steel and the other main producers, and has been refused by them. Similarly, the export of cast iron skull is permitted only if the material is not accepted by the All India Foundry Association, Calcutta. The remaining varieties of scrap can be exported at the discretion of the Iron and Steel Controller.

The working of these controls has inevitably led to certain conflicts of interests. The exporters contend that there is a large surplus of scrap after meeting all domestic requirements, and that the quantitative control on export should be relaxed, if not removed completely. On the other hand there have been complaints from domestic furnace owners that sufficient scrap is not available particularly at controlled prices. There is a wide difference between controlled and market prices, amounting to Rs. 70 to Rs. 80 per ton in the case of heavy melting scrap, and Rs. 100 to Rs. 120 per ton for borings and turnings. The scrap traders assert that at the controlled rates it is not worthwhile to collect all the scrap that arises. These conflicting claims can only be examined in the light of an estimate of total likely arisings of scrap during the Third Plan and the domestic demand.

CHAPTER III

ARISINGS

There are generally two broad methods of estimating the total arisings of scrap. The first is to estimate the arisings of process scrap as a percentage of the actual consumption of steel, and then to assume that capital scrap arisings will bear a fixed relationship to process scrap. The second is to estimate process and capital scrap independently, process scrap being calculated as in the first method and capital scrap being calculated as in the basis of the life of various plant and machinery. Since the data on scrap are so exiguous in India, the Committee has thought it best to apply both the formulae. The first step is of course to estimate process scrap.

Process Scrap

The quantity of scrap which arises in the production of steel goods varies from industry to industry. It may be as low as 3 per cent in such industries as ship building, and as high as 30 per cent in the making of ordnance equipment. In the U. K., it has been found that on the average process scrap amounts to 15 per cent to 20 per cent of finished steel consumption, and in the U. S. to 15 per cent. These countries have, however, a very different pattern of production from that in India, and as much larger proportion of the steel is used in making automobiles and precision machinery, where the ratio of process scrap is high, whereas in India a much larger proportion goes into the making of items like rails where the process scrap arisings are very low. The Kapur Committee assumed that on an average process scrap arisings in India would be 11.5 per cent of the ingot production, and the ratios mentioned to the Committee ranged from 10 per cent suggested by various steel producers, to 15 per cent of the finished steel consumption, estimated by the Scrap Traders and Exporters Association of Bombay. In the Committee's view, it would be reasonable to assume that process scrap would amount to around 10 per cent of finished steel consumption, in view of the pattern of steel consumption over the Third Plan. A large part of the steel will be required for items like rails where arisings of process scrap are negligible, and structurals, and bars and rods, where the arisings of scrap will only amount to 3 to 5 per cent.

This rate has been applied to the patterns of production and consumption for the Third Plan. The Committee has estimated that the actual production will be somewhat less than the targets forecast in the Third Plan, that imports will go down from 8 lakh tons in 1961-62 to nil in 1965-66 and that exports need not be allowed for since they are only likely to take place if production exceeds the levels we have estimated. Thus the total domestic consumption of steel will amount to 4.15 million tons in 1961-62 and to 6.3 million tons in 1965-66. If process scrap amounts to 10 per cent of steel consumption, then the arisings of process scrap over the next five years will be as follows—

Arisings of process scrap 1961-66 (in '000 tons)

1961-62	..	..	..	..	..	..	—415
1962-63	..	..	..	..	..	..	—493

1963-64	..	..	..	..	..	..	—494
1964-65	..	..	..	..	..	..	—537
1965-66	..	..	..	..	..	..	—630

In addition there will be arisings of scrap from the re-rolling mills. These can be estimated at about 6 per cent of their finished steel output, which will rise from 900,000 tons in 1961-62 to 1,100,000 tons in 1965-66. Arisings of scrap from this source will, therefore, be as under :—

Arisings of Re-rollers Scrap: 1961—66 ('000 tons)

1961-62	..	..	..	..	..	..	—54
1962-63	..	..	..	..	..	..	—57
1963-64	..	..	..	..	..	..	—60
1964-65	..	..	..	..	..	..	—63
1965-66	..	..	..	..	..	..	—66

Capital Scrap

As we have pointed out before, there are two methods of estimating the arisings of capital scrap. The first is to estimate that the arisings of capital scrap will be in a fixed ratio to the arisings of process scrap; but even here, there is a difference of opinion about the ratio to be adopted. In both the U.K. and the U.S. arisings of capital scrap are generally equal to twice the arisings of process scrap, and the ratio of 2 : 1 has also been frequently adopted in India. Since the pattern of steel production and consumption in India differs considerably from that in the U.S. and the U. K. it is likely that the ratio of capital scrap to process scrap will also be different in India. Thus the furnace Owners' Association has adopted the ratio of 1st. Another witness before the Committee preferred the ratio of 1.5 : 1. The consumption of steel in the past has been very low and the average life of steel manufactures also tends to be higher than in U.K. and the U.S. For this reason the ratio of capital scrap to process scrap, in the opinion of the Committee, is not likely to exceed 1.5 : 1 at the beginning of the Plan period. In fact this ratio will probably decline over the Plan since with the rapid increase in the domestic production of steel and steel manufactures. The arisings of process scrap will, as we have seen above, rise very rapidly whereas arisings of capital scrap which depend on past consumption, cannot rise so rapidly. The estimate of capital scrap arisings on the basis of a ratio of Capital scrap to process scrap of 1.5 : 1 are set out below:—

Arisings of Capital scrap 1961—66 (Method I)

					(’000 Tons)
1961-62	1962-63	1963-64	1964-65	1965-66	
643	695	741	806	945	

An alternative method, and perhaps a more rational one, is to take into account the life of the various steel commodities used in India, and to allow for the inevitable losses due to corrosion, non-recoverability, etc. The life of various objects with a steel content may vary from six months, as in the case of containers, to seventy or eighty years or more, in the case of materials used for construction purposes. It would be safe, however, to assume that the average life of various forms of steel will be thirty years. Some allowance must be made for losses due to corrosion etc., and also for the fact that the pre-war figures of

production refer to undivided India, and in the case of imports also include Burma. Taking these facts into account also, it may be assumed then that the arisings of capital scrap will be equal only to 66·6 per cent of total consumption 30 years ago. The domestic production of steel amounted to 4,39,000 tons in 1931. Imports of steel amounted to another 3,71,000 tons in 1931-32 and it has been estimated that the steel content of imported plant, machinery etc., amounted to 124,000 tons. Allowing for a 10 per cent loss on imported domestic steel and assuming that arisings of capital scrap in 1961-62 will amount to two-third of the total consumption in 1931-32, the arisings will amount to 5·7 lakh tons, this may rise to 7·7 lakh tons in 1965-66. The year, by year breakup will be as shown below—

Arisings of capital scrap (Method II)

				('000 tons)
1961-62	1962-63	1963-64	1964-65	1965-66
570	630	670	720	770

This formula would appear to yield a more reasonable estimate than the first formula, particularly for the later years of the Plan, and has therefore been adopted by the Committee.

A further adjustment must be made to these figures. As is usual, home scrap has been omitted from these estimates. However, the conventional estimates of home scrap include a percentage of scrap which can be used for industrial and re-rollable purposes instead of being melted. The Committee estimates that on an overall basis about 8 per cent of the ingot production will be in the form of industrial and re-rollable scrap for all the main producers except Rourkela. Since Rourkela will produce only flat products, the arisings of these two categories of scrap are unlikely to exceed 3 per cent of the ingot production. These figures have been added to the other arisings to arrive at the total arisings (a suitable adjustment has also been made to the demand figures). It should be noted that this ratio of 8 per cent is considerably higher than the percentage of industrial and re-rollable scrap which is at present being offered by the main producers, the sales by Tatas, which make available the largest quantities of these types of scrap, amount to around 6 per cent of their production. But, as we have agreed in Chapter V, the main producers should be able to provide larger amounts of industrial and re-rollable scrap. However, if these amounts are not forthcoming, then the retained home scrap will go up, and the demand for bought scrap, decline in proportion.

The total arisings of scrap, net of home melting scrap, over the Third Plan period, as well as a break-up of arisings into melting re-rollable and industrial scrap, are given in Chapter VII. It will be seen that arisings will rise from 1,282,000 tons in 1961-62 to 2,031,000 tons in 1965-66.

Two points must be stated here. First, the estimates are necessarily subject to a wide margin of error. Second, these estimates relate to theoretical arisings, not to actual availability. The amounts of scrap actually offered on the market may either exceed the theoretical arisings of any year, if past stocks are drawn upon, or may fall below them, if scrap is allowed to be dormant.

Since even the figures of total arisings have had to be based on broad ratios, the Committee has not found it possible to break down arisings regionally.

CHAPTER IV

DEMAND FOR MELTING SCRAP

Since the problems of the users of industrial and re-rollable scrap are quite different from those of melting scrap, they have been considered separately. The present chapter deals with the demand for melting scrap while the supply and demand for industrial and re-rollable scrap are dealt with in Chapter V.

The Chief users of melting scrap are the main producers, the ordnance factories, the furnaces for foundries and billet making, and the ferro alloy and alloy steel plants. The chemical industry also uses some scrap but its demand is negligible and can be ignored.

Main Producers

In striking a balance between supply and demand, the total consumption of home scrap by the main producers need not be taken into account, but only the net requirements of bought scrap. Rourkela and IISCO will require no bought scrap throughout the Plan period and TISCO will also require no bought scrap in the first three years of the Plan, though in the last two years it will require 50,000 tons and 1 lakh tons respectively of scrap. For both Durgapur and Bhilai, total requirements of scrap can be put at 24 per cent of ingot production. In the case of Durgapur, the total arisings can be put at 20 per cent of ingot production, 8 per cent being industrial and re-rollable scrap (an allowance of 1 per cent for scale losses has been made throughout) (skull Scrap has been excluded from both arisings and demand, since no difference is made to the net demand for bought scrap); the requirements of bought scrap will thus amount to 12 per cent of ingot production. For Bhilai the arisings of scrap, not of industrial and re-rollable scrap, will be 15 per cent so that the requirements of bought scrap will amount to 9 per cent of ingot production. The requirements of Bhadravati at present are about 30,000 tons; after the steel expansion of 1 lakh tons, the Committee was informed that the total requirements of bought scrap would rise to 80,000 tons. The figure has been adopted although the Committee feels that if Bhadravati makes steel by the L.D. Process, as planned, the requirements of scrap will in fact be much lower. In the first three years of the Plan an additional 60,000 tons to 30,000 tons must also be provided for stock building.

The total requirements of the main producers will thus be 220,000 tons in 1961-62, going upto 529,000 tons in 1965-66.

Electric Furnaces for Billets and Foundries

The present capacity for castings is about 40,000 tons. The capacity licensed for castings is about 2 lakh tons including existing capacity and it has been assumed that all this capacity will materialise by the end of the Third Plan. The scrap requirements for castings will, therefore, be about 2·2 lakh tons by 1965-66, assuming that requirements of scrap are 10 per cent more than capacity.

The present capacity for billet making is about 60,000 tons which is expected to go upto 2 lakh tons by 1965-66; the requirements of scrap here also may be put at 10 per cent more than capacity. The total requirements of scrap for

foundries for castings and billet making will thus rise from 1.1 lakh tons to 4.4 lakh tons over the Plan period. Arisings of home scrap at about 33½ per cent of production have been deducted to arrive at estimates of bought scrap.

Ferro Alloys

Bhadravati is expected to attain a production of about 10,000 tons of ferro silicon by the end of 1962 and the requirements in 1961-62 will therefore be about 6,000 tons. The requirements will go upto 12,000 tons by the end of 1962 and will remain at that level thereafter. The total production of ferro silicon is expected to go up to 40,000 tons in 1965-66 so that the demand for scrap will amount to 24,000 tons.

Ordnance Factories

The total requirements of the ordnance factories for heavy melting scrap are at present round about 67,000 to 68,000 tons. A new furnace is to be set up in October 1963 so that there will be spurt in demand from the middle of 1963-64 onwards, rising to a total of 138,000 tons in 1965-66.

Alloy Steel Plants

By the end of the Plan it has been assumed that the output from the alloy steel plants will be of the order of 1 lakh tons, excluding the output of the ordnance factories.

The actual requirements of scrap for producing 1 lakh tons of special steel is only 1 lakh 50 thousand tons, but the Committee has allowed for an additional one lakh tons in 1964-65 for stock building and a similar additional quantity for stock building in 1965-66, to enable the production to be raised in the following years to 150,000 tons.

Miscellaneous

The total demand for melting scrap, the availability and the net balance is shown in Chapter VII.

CHAPTER V

INDUSTRIAL AND RE-ROLLABLE SCRAP

There is considerable demand in the country for industrial and re-rollable scrap, i.e. for those types of scrap, including defectives, which can be used for the manufacture of consumer goods without being re-melted, and for those varieties of scrap such as billet ends which can directly be re-rolled into various products. There are a large number of small scale industries for which these types of scrap form the main raw materials. Scrap re-rollers on the list of the Iron and Steel Controller have a capacity of about 2 lakh tons per annum on a one-shift basis, and there are also a number of small unregistered scrap re-rollers. The re-rollers are now running well below capacity due to the shortage of raw materials. There is probably also an unsatisfied demand for industrial scrap, although the Committee could not obtain sufficient data to arrive at a definite conclusion. Imports of industrial and re-rollable scrap amounted to 80,053 tons in 1959; they fell to the unusually low level of 16,828 tons in 1960 but ran at the average rate of about 750 tons a month in the first eight months of 1961.

As we have said in Chapter III, the arisings of industrial and re-rollable scrap in the main Steel Plants may be put at 243,000 tons in 1961-62, going upto 565,000 tons in 1965-66. In addition, some industrial and re-rollable scrap also arises in the processing plants, though on a much smaller scale. Thus about 10 per cent of the process scrap may be assumed to be in the form of industrial and re-rollable scrap. Finally, some of the capital scrap will also be of the industrial and re-rollable varieties. The figures of the industrial and re-rollable scrap arisings of the railways have been supplied to the Committee by the Railways; the Committee has assumed that the industrial and re-rollable portion of the other varieties of capital scrap will be negligible. The total arisings of industrial and re-rollable scrap thus amount to 3,29,000 tons in 1961-62, and go upto 691,000 tons in 1965-66. The break up according to the sources and the year by year arisings are shown below:—

Arisings of industrial and re-rollable scrap

('000 Metric tons)

	1961-62	1962-63	1963-64	1964-65	1965-66
Arisings of Main Producers ..	243	395	418	472	565
Process Scrap ..	42	49	49	54	63
Capital Scrap ..	44	63	63	63	63
	329	507	530	589	691

No precise break up into industrial and re-rollable scrap can be made, but it may be roughly estimated that about two-thirds of the total arisings of

industrial and re-rollable scrap will be industrial scrap and that one-third will be re-rollable scrap. Thus, arisings of re-rollable scrap will amount to about 220,000 tons in 1961-62 and about 460,000 tons in 1965-66. Since the arisings of re-rollable and industrial scrap are going up and the supply of prime materials will also increase, imports should be banned; apart from imports of special varieties of industrial scrap, such as old files, which will not be available indigenously. Even in 1965-66, there will be some surplus rolling capacity so that no further re-rolling mills should be allowed to be set up.

It should be emphasised that these figures of arisings are theoretical; at present for example, the actual sales of industrial and re-rollable scrap by TISCO do not exceed 5 to 6 per cent of the ingot production. It would appear that a fair percentage of scrap which could be used for industrial and re-rollable purposes is at present being melted; this is a point that was made to us by several scrap dealers. One reason for this is probably that the main producers require financial incentive to sell industrial and re-rollable scrap instead of melting it, to recompensate them for the trouble of sorting the scrap, making arrangements to sell it, and so forth. The present difference between the prices of industrial and re-rollable scrap and of melting scrap, although it ranges from Rs. 250 to Rs. 350 per ton, does not give a sufficient incentive, since under the retention price scheme, the higher receipts from sales of industrial scrap do not actually accrue to the producers, but accrue to the Equilisation Fund in the form of surcharge. This is obviously an anomalous situation and should be remedied. The Government may consider allowing the producers to retain the additional receipts from industrial and re-rollable scrap by reducing or removing the surcharge on industrial scrap. It is also necessary that arrangements should be made to ensure that the main Producers can receive heavy melting scrap in place of their sales of industrial and re-rollable scrap.

It is not possible to calculate the demand for these types of scrap precisely since a very large number of consumers are involved. But in view of the present shortage of supply of and the estimated order of increase in supply it is likely that even if the measures recommended above to increase the supplies of industrial and re-rollable scrap by the main producers are taken, shortage of these types of scrap will continue. Since many of the consumers of these types of scrap are small scale industries, we recommend that the existing price and distribution controls on both industrial and re-rollable scrap should remain. We may mention here that all the users of this type of scrap when we interviewed, including State Directors of Industries, were insistent that the existing controls should remain.

CHAPTER VI

CAST IRON AND STAINLESS STEEL SCRAP

The production of pig iron throw up considerable arisings of cast iron scrap like cast iron skull, etc. which can be used as melting scrap by foundries for making various castings. Under the present policy there is neither control over distribution nor a ban on the export of cast iron scrap, except for the stipulation that cast iron skull should be first offered to foundry Association and then allowed for export if refused by them. The Committee is of the view that this procedure should continue. However, the price control over all varieties of cast iron scrap should be abolished.

Ingot moulds made from pig iron are now being offered as a substitute for pig iron. The main producers have been allowed to offer ingot moulds against indents for pig iron placed on them. Since there is a shortage of pig iron even now, the Committee is of the opinion that the present price and distribution control for ingot mould should continue.

Stainless Steel Scrap—Uptil the current licensing period stainless steel scrap was allowed freely for export. A ban has been imposed on the export of this scrap during the current licensing period, but several representations against this ban on the report of stainless steel scrap were made to the Committee. The Committee went into the question whether it is desirable to continue the ban on export of this, which was imposed because it was felt that this scrap could be used in the country for making various stainless steel articles. But on investigation it would appear that there is not enough scope for utilising this scrap at present. Since it is not desirable to ban these exports till sufficient capacity for the utilisation of this scrap is set up in the country, the Committee recommends that the ban on export of this scrap may be lifted. The ban can be reimposed when the alloy and tool steel plants are set up in the country as these plants can remelt such scrap in their furnaces.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

The analysis of the demand and supply position made in the foregoing chapters can be summed up as follows:—

Scrap arisings 1961—1966

(As estimated in Metric tonnes on the basis of formula worked out on the previous pages)

	(In '000 M. Tons)				
	1961-62	1962-63	1963-64	1964-65	1965-66
1. Process Scrap of which	415	493	494	537	630
Industrial & Re-rollable ..	42	49	49	54	63
2. Capital Scrap of which	570	630	670	720	770
Industrial & Re-rollable ..	44	63	63	63	63
3. Re-rollers Scrap (Melting) ..	54	57	60	63	66
4. Industrial & Re-rollable scrap of Main Producers ..	243	395	418	472	565
Total arisings ..	1,282	1,575	1,642	1,792	2,031
Melting ..	953	1,068	1,112	1,203	1,340
Industrial & Re-rollable ..	329	507	530	589	691
Availability of Melting Scrap at 80% of arisings ..	762	854	889	962	1,072

Net Demand for Melting Scrap 1961—66 (Excluding Home Scrap)

	('000 M. Tons)				
	1961-62	1962-63	1963-64	1964-65	1965-66
1. Main Producers	220	274	270	386	529
2. Other furnaces & foundries	77	123	192	242	317
3. Ordnance Factories ..	68	68	103	138	138
4. For manufacture of Ferro-silicon	6	6	12	12	24
5. For Alloy & Tool Steel Plants	0	0	0	100	250
Total Demand ..	371	471	577	878	1,258

Demand and Supply of Scrap

('000 M.Tons)

			1961-62	1962-63	1963-64	1964-65	1965-66
Availability	..	..	762	854	889	962	1,072
Demand	..	..	371	471	577	878	1,258
Balance	..	..	+391	+383	+312	+84	-186

It is in the light of this balance of supply and demand that the Committee makes its recommendations.

It should be noted that for striking this balance between supply and demand, we have taken into account not the theoretical arisings but what we feel is likely to be the actual availability of scrap. Taking into account past availability, it is best to assume that the availability of scrap will amount to around 80 per cent of arisings.

2. *Export Policy*—Exports of melting scrap in 1961 upto 15th November 1961 amounted to 341,411 tons and over the year as a whole exports will probably exceed 4 lakh tons. This it should be noted is larger than the surplus shown in the table above. In considering what the export policy for 1962-63 should be, the Committee has taken into account two opposing sets of considerations. On the one hand it is important not to lose foreign exchange earnings and also to provide an incentive for raising the domestic collection of scrap. These considerations would indicate a liberal export policy. On the other hand if exports are allowed without restrictions, and price and distribution controls are lifted, there may be a steep rise in domestic prices. This will not only affect domestic production, particularly of billets, but may also affect exports of steel castings and other steel products. On balance, the Committee feels that it would be best to impose an overall quota on exports of scrap, but to fix the quota at the same level as in 1961, i.e. at a little over 4 lakh tons. If Government finds that the domestic prices of scrap settle at relatively low levels, it may consider liberalising the quota further. On the other hand, if the foreign demand for scrap, which is at present low, rises so that an upward pressure is exerted on domestic prices, Government may either restrict the quota or levy an export duty.

There should be a complete ban on exports of heavy melting scrap and No. 1 sheet cuttings, including main producers' skull scrap, and even the small incentive exports permitted at present should be banned. Exports of other types of scrap, like 2, 2A and 3 class of sheet cuttings and high silicon sheet cuttings should be freely permitted upto the overall ceiling. Export of turnings and borings should be permitted only at the discretion of the Iron and Steel Controller. So far as electric furnace skull scrap is concerned, the Committee feel that there should be no ban on exports until the producers and furnace owners in this country are in a position to utilise this scrap.

The Committee cannot make any recommendations as regards the export policy for later years at this stage, since the estimates of availability and demand, on which the policy must be based, will have to be revised in the light

of data available at a later date. The estimates of availability and demand are necessarily so tenuous that it is essential to review them periodically while evolving export policy.

3. *Price and Distribution Controls*—Since exports are to be quantitatively restricted the *raisen detre* of the existing price and distribution controls—scarcity—will largely disappear and the Committee recommends that these control on melting scrap should be removed altogether. It should be remembered that even today a large number of purchases are made from other than controlled sources and the actual price paid for heavy melting scrap has been as high as Rs. 235 per ton. From the answers received from the consumers of melting scrap it would appear that considerable amounts of scrap have been purchased outside the control. If the supply position permits, it would obviously be preferable to let the normal trade channels handle the distribution of scrap and this is, in fact, necessary to develop a healthy scrap trading industry.

It is, of course, undeniable that the free market price of scrap will probably settle at a level somewhat higher than the controlled prices though, in the Committee's opinion, the free market prices are likely to be below the top prices paid for extra control purchases of scrap in the past. Even if a moderate increase in price per ton does take place, it is not necessarily undesirable. As we have frequently stressed, the actual collections of scrap in India would appear to be far below the levels feasible, and a higher domestic price would act as an incentive to better collections. Since scrap is such a valuable resource, this means of increasing collections should be tried.

It should also be noted that an increase in the price of scrap should lead to a much smaller rise in the price of finished products since the cost of scrap forms a minor part of the costs of production, particularly in the case of castings. The price of castings is not controlled and either the producer or the consumer should easily be able to absorb the increase in the price of scrap. It is true that the price of billets is controlled but the electric furnace owners can adjust the production between billets and castings in the manner that they find economical. The long term objective of policy should be to encourage the production of castings and other quality products by the electric furnaces.

4. *Expansion of Furnace capacity*—As the table above shows, sizeable surpluses will accrue in the first three years of the Plan; in the last year, on the other hand, unless availability increases significantly, there will be a shortage of scrap. It is, therefore, very important that the planned expansion of furnace capacity should be set under way immediately. Four schemes for the manufacture of billets by continuous casting are under consideration, though they have not been included in the demand for melting scrap. One of these cases was examined in order to arrive at a rough estimate of the foreign exchange saving involved.

The Committee found that the foreign exchange capital cost for installing equipment for continuous casting of billets, with a capacity of 83,000 tons of billets per annum, will be around Rs. 210 per ton, i.e. with a life of 15 years, the foreign exchange cost per annum per ton will be around Rs. 14 per ton, taking into account only the cost of the machinery which is the main cost involved. The net foreign exchange cost of exporting scrap and importing billets would be around Rs. 200 per ton. There is, therefore, a very strong case for the

immediate expansion of electric furnace capacity upto the *limits set by scrap availability*.

New furnaces should be distributed regionally, with the proviso that no furnace should be permitted to fall below the economic size of 10 tons capacity. The geographical dispersion will have the advantage, among others of encouraging the widespread collection of scrap. Some concentration of furnace capacity is, however, probably inevitable, since the choice of location will depend at least as much on the demand for the end-product, as on the sources of supply of scrap.

5. *Freight rate of scrap*—If such a concentration occurs it would be desirable to re-examine the freight rates for scrap and if possible, to make such changes, including the classification of scrap for freight purposes, as will encourage the collection of scrap.

6. *Improved collection of scrap*—It cannot be over emphasised that one of the main goals of the policy must be to encourage the collection of scrap. The Committee hopes that the measures of decontrol of price and distribution, which it has suggested, will act as a powerful incentive to increase collections. It also hopes that given this incentive, the trade will take suitable measures to improve its organisation. We have received numerous complaints from the furnace-owners regarding the lack of grading and sorting, deliveries of rusty and unusable scrap etc. With the substantial increase in arisings, and hence in the scope of the scrap trade, that is likely to take place in the near future, it is obviously essential and well within its power for the trade to improve its methods of collection, of grading and sorting, and of bundling and deliveries. The necessity for proper grading will be crucial when the demands of the alloy steel plants have to be met.

As regards industrial and re-rollable scrap, the existing price and distribution controls may continue. Only import of special varieties of industrial scrap should be permitted at around the present levels. Since the normal types of industrial scrap will be available in greater quantities with increased production of steel, it may not be necessary to import these types of industrial scrap.

Since there will be a surplus of rolling capacity even in 1965-66, no further re-rolling mill should be allowed to be set up.

1. Shri A. N. Banerjee

Sd/- A. N. Banerjee.

2. Shri N. R. Reddy.

Sd/- N. R. Reddy,—18-1-62.

3. Shrimati D. Kumar.

Sd/- D. Kumar.

4. Shri C. J. Shah.

Sd/- C. J. Shah,—18-1-62

5. Shri P. R. Nair.

Sd/- P. R. Nair.

APPENDIX I.

LIST OF REPRESENTATIVES WHO ATTENDED THE SCRAP INVESTIGATION COMMITTEE MEETING.

CALCUTTA—

1. Shri K.J. Cleetus, Director, M/s. Hindustan Steel Ltd., 2 Fairlie Place, Calcutta 1.
2. Shri R.L. Bharti, M/s. Calcutta Steel Ltd., 4, Old Court House Street, Calcutta 1.
3. Shri Sohoni, D.G.O.F., Ram ADGOF/SP and Shri S. Bhattacharya, DGOF/ MET., Office of the Director General, Ordnance Factories, 6, Esplanade East, Calcutta.
4. Shri S. Banerjee, Technical Adviser, The Steel Re-rolling Mills Association of India, 20, Strand Road, Calcutta.
5. Shri P.N. Ghosh, Chairman, India Foundries Association, India Exchange Place (7th Floor), India Exchange Place, Calcutta 1.
6. Shri A.H. Sethna, Farhat Said Khan M/s. Tata Iron & Steel Co. Ltd., 23-B Netaji Subhas Road, Calcutta 1.
7. Shri S.K. Biswas, M/s. Joesep & Co., 67, Netaji Subhas Road, Calcutta 1.
8. Shri K.R. Iyer, M/s. G.K.W. Ltd., 41, Chowringhee Road, Calcutta 16.
9. Shri J.K. Bose, M/s. Balmer Lowrie & Co. Ltd., Netaji Subhas Road, Calcutta 1.
10. Shri E.R. Bagre, M/s. Bagre Iron & Steel Works, Calcutta.
11. Shri A.C. Mukherjee, M/s. Texmaco, Calcutta.
12. Shri S.C. Laul, M/s. Grand Smithy Works.

DELHI—

1. Shri G.P. Bhalla, Director, Railway Stores, Railway Board Bhawan, Raisina Road New Delhi.
2. Shri Bashir, M/s. J.K. Iron & Steel Co. Ltd. Kamla Tower, Kanpur.
3. Shri Sardar Inder Singh, M/s. Singh Engineering Works Ltd., G.T. Road, Kanpur.
4. Shri Gupte, M/s. Prakash Engineering & Rolling Mills, Freoganj, Agra.
5. Shri Hanaraj Gupta, Chairman, All-India Iron & Steel Stockholders Federation, Ajmere Gate, Delhi.
6. Shri Dharampal Dada, M/s. Mohoraja Rolling Mills.

BOMBAY—

1. Dr. Pran Lal Patel.
2. Shri Suraj Mohatta, M/s. B.R. Herman & Mohatta (P) Ltd.
3. Shri Balakrishnan, M/s. All India Auto Mfg. Association.
4. Shri Ram Prashad Khandelwal, M/s. Khandelwal Brothers.
5. Shri M.R. Manlekar, Director of Industries, Maharashtra.
6. Shri D.S. Godbole, Dy. Director of Industries, Maharashtra.
7. Shri B.B. Shah, M/s. Alcock Ashdown, M/s. Investa Machine Tools Mfg. Co., M/s. Szeells.
8. Shri S.A. Nathani, Scrap Taders & Exporters Association.
9. Shri V.J. Shah, M/s. Mukand Iron & Steel Co.
10. Shri H.D. Sahnkar, M/s. Godrej & Boyce.
11. Shri Thadani, M/s. Krishna Industrins Ltd.
12. Shri V. Purohit, Secretary, Steel Furnace Owners Association.
13. Shri P.L. Kirloskar M/s. Darukhana Iron & Steel.
14. Shri V.B. Gulva, M/s. Darukhana Iron & Steel.
15. Shri J.J. Parkash, M/s. Steel Corporation of Bombay.

MADRAS—

1. Shri Ramakrishna, M/s. K.O.P. Ltd.
2. Shri T.S. Srinivasan, M/s. T.V.S. Ltd.
3. Shri C.R. Ramaswamy, M/s. Indian Steel Rolling Mills.

MADRAS—contd.

4. Shri V. Annamalai Cheety, K.S. Narasimhachari, The Madras Circle Scrap Dealers Association.
5. Shri Rajendran, M/s. N. Kuppuswamy Naicker.
6. Shri M. Rego, M/s. Mahindra & Mahindra.
7. Shri J.J. Cherian, Deputy Director of Industries & Commerce, Kerala State.
8. Shri T. Shamanna, Director of Industries & Commerce, Mysore.
9. Shri T.R. Krishnaswami, Jt. Director of Industries & Commerce, Madras.
10. Shri Ayyamani, Hindustan Machine Tools Ltd., Bangalore.



सत्यमेव जयते

APPENDIX II.

DEFINITION OF PRESSED BALE SHEET CUTTINGS AND HEAVY MELTING SCRAP.

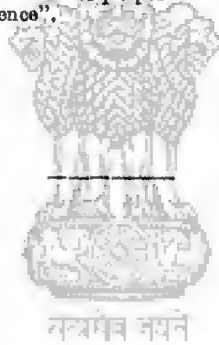
(a) No. 1 pressed mechanically or hydraulically, consisting of fresh or clear unoxidised sheet cuttings.

(a) No. 2, pressed mechanically or hydraulically or by hand, consisting of rusty and/or old iron and steel sheets cuttings and/or punchings thinner than 1/8" including condemned manufactured articles of black sheet metal and/or ungalvanised wires and auto body scrap. Such bales shall contain no fresh or unoxidised black sheet cuttings and/or punchings.

No. 2A, pressed mechanically or hydraulically or by hand consisting of unserviceable old and used rusty and condemned articles of iron steel wire and/or sheets (thinner than 1/8") badly pitted and corroded sheet metal including auto body and fender scrap. Such bales shall contain no fresh or unoxidised black sheet cuttings and/or punchings unless used as one covering or binding materials.

(c) No. 3, pressed mechanically or hydraulically or by hand, consisting of old and used rusty and condemned unserviceable iron and steel wire and sheet metal articles, galvanised, and/or enamelled, galvanised sheet cuttings or sheet scrap or cuttings and condemned manufactured articles, destructor scrap and all other mucky materials.

(d) Heavy melting scrap means "any steel scrap of 1/8" thick and above (irrespective of weight of each piece) which can be utilised for purpose of melting only unless otherwise specifically described in the Export Licence".



APPENDIX III
PRICE CIRCULAR NO. 10 OF 1960
(Defectives & Scraps)

SCHEDULE V—

Dated the 24th December 1960.

In exercise of the powers conferred by Sub-Clause (1) of Clause 15 of the Iron & Steel (Control) Order, 1956 and with the approval of the Central Government, the Iron and Steel Controller hereby notifies the following maximum prices of Defectives and Scraps, in supersession of all previous notifications on the subject.

This price Circular is based on the Government of India, Ministry of Steel, Mines & Fuel, Iron & Steel Control, Calcutta's Notification No. ISC/AP/82/60 dated 8-11-1960 published in Part III Section 1 of the Gazette of India dated 24th December, 1960.

SCHEDULE V

PART I-A—(Fresh Unused Defective and Cuttings)

Item No.	Description or Classification of materials.	Maximum basic prices at all Rail-head Stations in India in Rupees per M/Ton.		
		COL. I	COL. II	COL. III
		For sales by controlled sources other than those mentioned in Col. II.	For sales by scrap Merchants who have been declared Controlled Sources.	For sales by all persons other than those mentioned in Cols. I & II.
1	2	3	4	5
		Rs.	Rs.	Rs.
1	Bars and Rods—Mild Steel Rounds and Squares below 80 mm and Flats upto and including 125 mm wide—Defective or Rejected Bars above 2.75 M long and Rods above 2.45 M Long Base ..	546	571	591
2	Fishplates Defective or Rejected for heavy or light rails.	487	512	532
3	Plates Defective or Rejected full size 100 mm and up thick—Base	599	624	644
4	Plates Chequered 6 mm Defective or Rejected full size Base	615	640	660
5	Balls Steel, Defective or Rejected above 3.65 m and uplong—			
	(a) Light	546	571	591
	(b) Heavy	536	561	581
6	Semis Defective or Rejected (Ingots, Blooms, Billets over 100 mm Slabs over 80 mm thick ..	404	429	449

PART I-A—(Fresh Unused Defective and Cuttings)—contd.

(1)	(2)	(3)	(4)	(5)
		Ra.	Ra.	Ra.
7	Sheets—			
	(a) Black Defective or Rejected and cut down over 610 mm width and not below 1.22 M in length 3.2 to 2.0 mm Base	561	586	606
	(b) Black-Cuttings-over 610 m in width and between 0.61 M to 1.22 M in length 3.15 to 2.0 mm with Stickers-Base—	502	527	547
8	Sheets-Galvanised Corrugated Defective or Rejected & Spotted—Full size 0.63 mm gauge-Base ..	752	778	798
9	Sleepers-Steel-Defective or Rejected—			
	(a) Metre Gauge	561	586	606
	(b) Broad Gauge	512	537	557
10	Sleepers Bars-Defective or Rejected 2.75 m and above	448	473	493
11	Structurals (including Bars, Rounds & Squares 80 mm and above & Flats above 125 mm wide)-Defectives, Rejected and non-standard over 2.75 M Long-Base	561	586	606
12	Tinplate waste full size all gauges	1,041	1,071	1,091
PART I-B—(Fresh unused industrial Scrap.)				
1	Axles-Straight-Defective or Rejected	379	404	424
2	Bars & Rods-Mild Steel (Rounds and Squares below 80 mm and Flats upto and including 125 mm wide)—			
	(i) Cuttings 0.61 M to 2.75 M Bars and 0.61 M to 2.45 M Rods-Bases	472	497	517
	(ii) Cuttings-under 0.61 M to 0.30 M long	379	404	424
	(iii) Cuttings under 0.30 M long	300	325	345
3	Bars High Carbon Octagonal Defective or Rejected & Cuttings—			
	(i) 0.61 M long and above	527	552	572
	(ii) Below 0.61 M long	404	429	449
4	Bars Spring Steel—			
	(i) Defective or Rejected over 2.75 M in length	527	552	572
	(ii) Defective or Rejected and cuttings 0.61 M to 2.75 M in length	438	463	483
	(iii) Cuttings 0.30 M to under 0.61 M in length	408	433	453
	(iv) Cuttings under 0.30 M long	320	345	365
5	Hoops or Thin Flats-Defective or 'Rejected' and Cuttings 5 mm to 1.6 mm in thickness and all widths.			
	(i) Over 3 M long	369	414	434
	(ii) Between 0.61 M to 3 M long	379	404	424
	(iii) Below 0.61 M long	261	286	306
6	(a) Hoops-Defective and Cuttings—			
	(i) 20 mm × 1.1/1.0 mm over 3 M in length	615	640	660
	(ii) 20 mm × 1.25/1.1 mm over 3 M in length	581	606	626
	(iii) 20 mm—all thickness and below 3 M in length	320	345	365
	(b) Box Strappings—Defective and Cuttings—			
	(i) 10 mm to 20 mm × 0.63 mm over 3 M in length.	837	862	882
	(ii) 10 mm to 20 mm × 0.50 mm over 3 M in length	871	896	916

PART I-B—(Fresh Unused Industrial Scrap)—contd.

(1)	(2)	(3)	(4)	(5)
		Rs.	Rs.	Rs.
7	Plates, Cuttings—			
	(i) Ends and Strips, Straight, Sheared, below 8 mm thick and above 254 mm wide—Base ..	418	453	463
	(ii) Ends and Strips below 8 mm and in widths upto 254 mm—Base	394	419	439
8	(a) Plate shearings, unassorted, in mixed lengths, widths and thickness	325	350	370
	(b) Punched Plates 8 mm thick and over (including punchings of deeper Bars, Tie Bar and Bear-plates)	197	223	242
9	Plates—Chequered below 8 mm—Base			
	(i) Shearings above 254 mm wide	438	453	483
	(ii) Shearings upto 254 mm wide	389	414	434
10	Plates, Black-Rejected-Full size as rolled-mixed thicknesses	517	542	563
11	Plates—Black-Cuttings—			
	(i) Thin straight, sheared mixed thicknesses 1-0/0-23 mm 100 mm wide and over	389	414	434
	(ii) Thick hand-bundled mixed thicknesses 1-0/0-23 mm, 60 mm wide and over	290	315	335
12	P.C.R.O.A. Wasters mixed gauge full size (if these are sorted out by gauges, gauge extras as fixed for Tin-plate will apply)	492	517	537
13	P.C.R.O.A. Strips-Cuttings mixed gauges, gauge extras as fixed for Tin-plate will apply)—			
	(i) Over 150 mm wide	374	399	418
	(ii) 80 mm to 150 mm wide	335	360	380
	(iii) Under 80 mm wide	285	310	330
14	Rails—Steel—Cuttings—			
	(i) Under 0-61 M (Light or Heavy)	340	365	385
	(ii) 0-61 M to 3-65 M long—light	389	414	434
15	Roll Spoils—below 20 mm in thickness and all lengths	389	414	434
16	Sheets, Black Cuttings, Fish-tails and cleanout mixed 150/610 mm wide			
	(i) 2-25/1-25 mm thicknesses	374	399	419
	(ii) 1-1/0-80 mm thicknesses	384	409	429
	(iii) 0-63 mm thicknesses	438	463	483
	(iv) p-50 mm	443	468	488
	(v) 0-40 mm	448	473	493
	(vi) 0-31 mm	458	478	498
17	Sheets-Black Cuttings unannealed cleanout pieces 150 mm to under 610 mm wide—base	404	429	449
18	Sheets-Black, Cuttings 150 mm and up wide all Fish-tails 3-15 to 3-50 mm thicknesses or mixed thicknesses	340	365	385
19	Sheets-Black,—Cuttings 50 mm to under 150 mm wide—Base	280	305	325
20	Sheets—			
	(a) Galvd. Plain cuttings of any or mixed thicknesses	576	601	621
	(b) Galvd. Corrugated cuttings of any or mixed thicknesses	527	552	572

PART I-B—(Fresh Unused Industrial Scrap)—contd.

(1)	(2)	(3)	(4)	(5)
		Rs.	Rs.	Rs.
21	Structurals cuttings 0·61/2·75 M long including those of bars (Rounds and squares 80 mm and above and Flats above 125 mm wide) Track sleeper Bars cuttings and Crossing Sleepers Bars cuttings—Base (except Joists Channels and Angles 8 mm thick and up)	418	443	463
22	Structurals Cuttings under 0·61 including cuttings of Bars (Rounds and squares 60 mm and above and Flats above 125 mm wide)	320	345	365
23	Tinplate strips 0·40 mm and thicker in lots (if these are sorted out by thickness, thickness extra as fixed for Tinplate will apply)			
	Minimum Width Maximum Width			
	(a) Over 150 mm	785	810	830
	(b) Over 80 mm 150 mm	755	780	800
	(c) Over 50 mm 80 mm	726	751	771
	(d) Over 25 mm 50 mm	696	721	741
	(e) Over 12 mm 25 mm	667	692	712
	(f) Over 12 mm	637	662	682
24	Tin Bars and Sheet Bars Crop-Ends 50 mm to 150 mm wide	369	394	414
25	Wire, Defective and Short length Specific thickness 7mm to 6·5 mm (thickness extras as fixed for M/S Indian Steel & Wire Products Ltd., will apply)			
	(a) Hard Bright	615	640	660
	(b) Annealed	664	689	709
	(c) Galvanised (including Telegraph)	753	778	798
	(d) Barbed	816	886	906
26	Wire, Scrap and Cuttings in mixed unsorted thicknesses—			
	(a) Hard Bright	566	591	611
	(b) Annealed	615	640	660
	(c) Galvanised	704	729	749
27	Wire, Twisted, Bent and rusty-mixed or unmixed thicknesses—			
	(a) Unannealed	418	443	463
	(b) Annealed	428	453	473
	(c) Galvanised	507	532	552
	(d) Barbed	615	640	660
28	Wire Nails-Defective Rejected and/or Rusty of any gauge and size	664	689	709
<i>Part I-C—(Used Industrial Scrap)</i>				
1	Axles, Straight (Railway)-over 100 mm and Crank Axles all sizes	364	389	409
2	Bars and Rods Mild Steel (Rounds and Squares below 80 mm and Flats upto and including 125 mm wide)—			
	(i) 0·61 M long and above Base	399	424	444
	(ii) Cuttings below 0·61 M and 0·30 M long	320	345	365
	(iii) Cuttings under 0·30 M long	241	266	286

PART I-C—(Used Industrial Scrap)—contd.

1	2	3	4	5
		Rs.	Rs.	Rs.
3	(a) Bars-Spring Steel—			
	(i) Over 225 mm in length	428	453	473
	(ii) Cuttings 0·61/2·45 M in length	354	379	399
	(iii) Cuttings 0·30 M to under 0·61 m	310	335	355
	(iv) Cuttings under 0·30 M long	261	286	306
	(v) Crow Bars-Rejected ·61 M & over	315	340	360
4	Dog Spikes	266	291	311
5	Draw Bars (Railway Engine and Carriage) with or without hooks—			
	(a) 1·80 M and above in length	335	360	380
	(b) Below 1·80 M in length	320	345	365
6	(a) Fencing Posts-Punched-complete or broken 0·61 M in length and over	390	315	335
	(b) Files-Steel	610	635	655
	(c) Files-Broken but usable as files	413	438	458
7	Fish Plates for Heavy or Light Rails-Usable	359	384	404
8	Hoops or thin Flats—			
	(i) 3·15 mm to 1·60 mm over 3 M long	295	320	340
	(ii) 20 mm × 1·0 mm over 3 M in length	482	507	527
	(iii) 20 mm × 1·25/1·1 mm over 3 M in length	453	478	498
9	Hoops or thin Flats 3·15 mm & thinner cuttings below 3 M in length all widths	371	396	416
10	Plates, steel, with or without holes-all sizes below 6 mm thick	310	335	355
11	Plates-Boller Steel with or without holes-below 8 mm thickness all lengths	349	374	394
12	Rails :			
	(a) Above 3·25 M long when sold as Transmission Poles—Selected	404	429	449
	(b) Above 3·65 M long light	364	389	409
	(c) Above 3·65 M long-Heavy	344	369	389
	(d) All Rails light or heavy 0·30 M to 0·61 M long	256	281	301
	(e) Light Rail cuttings over 0·61 M to 3·65 M long	320	345	365
	(f) Wrought Iron Rails 0·61 M long and over	271	296	316
13(A)	Sheets-Galvanised Corrugated or plain-mixed or unmixed thicknesses—			
	(a) Used but in very good condition as good as new with only Nail holes	733	758	778
	(b) Used-damaged but utilisable	404	429	449
	(c) Used-damaged and unutilisable	285	310	330
	(B) Sheets Black Plain or corrugated or panel sheets mixed or unmixed thicknesses fit for use as sheet cuttings	290	305	325
14	Sleepers, pressed-steel-cuttings or full length not fit for re-rolling	241	266	286
15	Spring, Steel-laminated, value, Helical and Spiral—			
	(i) Complete	404	429	449
	(ii) Broken pieces	305	330	350

PART I-C—(Used Industrial Scrap)—con'd.

1	2	3	4	5
		Rs.	Rs.	Rs.
16	Structurals cuttings above 2.75 M long including those of Rounds and Squares 80 mm and above thick and Flats above 125 mm wide—Base	354	379	399
17(A)	Structurals cuttings under 0.61 M long including those of Rounds and Squares 80 mm and above thick and Flats above 125 mm wide	266	291	311
(B)	Tubes—			
	(i) Flue 2.45 M and over	320	345	365
	(ii) Boiler 2.45 M and over	320	345	365
	(iii) Element 2.45 and over	320	345	365
(C)	Vacuum Pipes 2.45 M and over	320	345	365
(D)	Tubes-Flue, Boiler and Element and Vacuum Pipes 0.61 M to under 2.45 M long	271	296	316
18	Wire mixed of all sizes and thicknesses	344	365	389

N.B. (1) Items marked 'Base' will carry sectional extras as in Extras list for prime quality steel.

(2) In case the materials which have been classified under Part III item. No. 1 are not broken and can be utilised as industrial scrap and are not covered by any item of Part I-C, these should be classified under Part I-C and charged per M/Tons as under :—

Col. I	Col. II	Col. III
Rs. 172	Rs. 197	Rs. 217

PART II-A—(Fresh Re-rollable Scrap)

Item No.	Description or Classification of materials	Maximum basic prices at all Rail-head Stations in India in rupees per M/Ton
		Rs.
1	Plates, shearing (resulting from fabrication work or from Producers) both Plain and Chequered of thickness 8 mm and up	394
2	Rails, Steel heavy, cuttings 0.61 M to 3.65 M long	384
3	Roll spoils 20 mm. and thicker	394
4	Semis-Defective Billets upto 100 mm and slabs upto 80 mm sheet bars, Tin bars and Sleeper Bars and Flat Bars and also sheet bar and Tin Bar Crop ends above thickness 8 mm and up	404
5	Sleeper Bars-cuttings 0.61 M to below 2.75 M	404
6	Structural cuttings viz. Joists, Channels and Angles 0.61 M to 2.75 M long and 8 mm thick and up	404
7	All other fresh materials considered by Iron and Steel Controller suitable or fit for re-rolling	389

PART II-B—(Used Re-rollable Scrap)

Item No.	Description or Classification of materials	Maximum basic prices at all Railroad stations in India in Rupees per M/Ton.
1	2	3
1	Axles straight 100 mm dia. and below (railway Loco C. & W.) fit for re-rolling	364
2	Draw Bars-Steel (with or without Hooks) above 1·80 M. long	335
3	Fish-plates for Heavy Rails, unserviceable	215
4	Plates-Shipbuilding, Railways, etc. with or without holes—8 mm and up thickness	325
5	Rails-Steel heavy 0·61 M to 3·65 M long (Including Points and Crossings and Unserviceable Rails of all lengths)	335
6	Sleepers, Steel-Full lengths	325
7	Structurals-including Bars (Rounds and Squares 80 mm and above, Flats above 125 mm wide) 0·61 M to 2·75 M. Long	335
8	Tie Bars-Mild Steel-punched 0·61 M. long and over	285
9	Tyres Scrap (with or without studholes)	335
10	All other used materials from any source including such scrap recovered from old fabrication (heavy structurals and Bars over 8 mm thickness inclusive) suitable or fit for re-rolling	320

N.B. (i) The following Railway materials will be included in item No. 10 of Part II-B above—

- (1) Fabricated materials of Rounds, squares and Flats with and without attachments.
- (2) Fire Brickers—31·75 mm squares and up.
- (3) Truss Bars—31·75 mm square and up.
- (4) Beams, fabricated, without attachment.
- (5) Channels, fabricated, comprising of bogie under-frames and wagon under-frames.
- (6) Channels, fabricated, Engine and Tender Frames.
- (7) Loco Tender and Bogie frames fabricated from heavy M.S. Plates.

N.B. (ii) If any material described under Part II-A and II-B above is allotted to a Controlled Scrap Merchant for resale, the chargeable rate of the Stockist will be Rs. 25/- per M/Ton more than the rate fixed for the materials under these Parts.

PART III—Melting Scrap

Item No.	Description or Classification of materials	Maximum basic prices per M/Ton ex-site.
		Rs.
1	Mild Steel-Commercial quality melting scrap (excluding Borings and Turnings and Special quality low phosphorus Melting scrap with Phosphorus content not exceeding ·05% per cent), Cast Steel Scrap and perforated Plates 3·15 mm inch etc.	98
	(a) Light Sheet Scrap	89
	(b) Steel Skull scrap-unbroken	98
	(c) Steel Skull scrap-broken and Processed.]	148
2	Fresh Borings and Turnings	25
3	Special quality low phosphorus Steel Melting Scrap—	
	(i) Phosphorus content not exceeding ·04 per cent	148
	(ii) Phosphorus content above ·04 per cent but not exceeding ·05 per cent	123
4	Cast Iron Melting Scrap Grade I	98
	Grade II	84

Part III—Melting scrap — contd.

Item No.	Description or Classification of materials	Maximum basic prices per M/Ton ex-site		
5	Complete wheel sets with axles and broken wheels and tyres (excluding spoke type)	Rs. 172		
6	Spring Steel Melting Scrap (including volute, Helical and Spiral Spring under 0.30 M Long and broken unusable files)	Rs. 138		
		Rate per M/Ton at all Rail head stations in India.		
		Col. I	Col. II	Col. III
		Rs.	Rs.	Rs.
8	Ingot M-unbroken (7.11 M/Ton to 9.14 M/Ton)	138	153	173
9	Ingot Mould Scrap-Semi-broken (1.02 M/Ton and under)	148	163	183
10	Ingot Mould Scrap (50 Kg and under) broken by Controlled scrap Merchants .. .. .	..	207	..

*Item No. 7 deleted.

N.B. (1) Classification of Melting scrap remains the same as before.

(2) If any material described under Part III is allotted to a Controlled Scrap Merchant for resale his chargeable rate will be Rs. 15/- per M/Ton more than the rate fixed for the materials under this part except in the case of Borings and Turnings (item No. 2) for which his chargeable rate will be Rs. 30/- per M/Ton including his remuneration.

The General and Special conditions of sale remain the same as before.

This amendment takes effect from the 24th December 1960 and notwithstanding rate at which an order has been booked or materials paid for shall apply to all deliveries effected on or after that date.

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S/ - C. V. RAMACHANDRAN
Price and Accounts Officer
for Iron & Steel Controller

GOVERNMENT OF INDIA
MINISTRY OF STEEL, MINES AND FUEL
IRON AND STEEL CONTROL
33, Netaji Subhas Road
Calcutta-1

Price per copy
25 Naye Paise

ADDENDUM TO PRICE CIRCULAR NO. 10 OF 1960
(Defectives and Scrap)

Dated 29th April 1961

SCHEDULE V

The following prices of Iron Skull Scrap based on the Govt. of India, Ministry of Steel, Mines and Fuel, (Deptt. of Iron and Steel), New Delhi's Notification published in Part II, Section-3(ii) of the Gazette of India dated 29th April 1961, are hereby notified for general information.

Part III—Melting Scrap

	Maximum prices per M/Ton ex-site
Item No. 4(A) Iron Skull Scrap Unbroken and unprocessed (over 7 M/Tons to 35 M/Tons)	Rs. 84
(B) Iron Skull Scrap broken and processed (7 M/Tons & under)	Rs. 133

The above prices take effect from 29th April 1961 and notwithstanding the rate at which an order has been booked or materials paid for shall apply to all deliveries affected on or after that date.

Sd/— C. V. RAMACHANDRAN
Price and Accounts Officer
for Iron and Steel Controller

GOVERNMENT OF INDIA
MINISTRY OF STEEL, MINES AND FUEL

(Deptt. of Iron and Steel)

33, Netaji Subhas Road,

Calcutta-1

PRICE CIRCULAR NO. 10 OF 1960—AMENDED

(Defectives and Scrap)

Dated the 18th March 1961

Price per copy

25 Naye Paise

SCHEDULE

The following revised prices of Defectives and Scrap Black Sheets and Galvanised Sheets are notified in amendment to those contained in Part I-A, Part I-B and Part I-C of Schedule V of Iron and Steel Controller Calcutta's Notification No. ISC/AP/62/60 dated the 11th November 1960 published in Part III Section 1 of the Gazette of India dated the 24th December 1960—

This Price Circular is based on Government of India Ministry of Steel, Mines and Fuel, (Deptt. of Iron and Steel), New Delhi's Notification published in Part II Section 3 (ii) of the Gazette of India dated the 18th March, 1961.

SCHEDULE V

Item No.	Description or Classification of materials	Maximum basic prices at all railhead Stations in India in Rupees per M/Ton		
		Col. I	Col. II	Col. III
		For sales by controlled Sources other than those mentioned in Col. II	For sales by Scrap Merchants who have been declared Controlled Sources	For sales by all persons other than those mentioned in Cols. I and II
1	2	3	4	5
	<i>Part I-A—(Fresh Unused Defectives and Sheets Cuttings)</i>			
7 (a)	Black—Defective or Rejected and cut down over 610 mm width and not below 1.22 M in length 3.15 to 2.0 mm—Base	670	695	715
7 (b)	Black—Cuttings over 610 mm in width and between 0.61 M to 1.22 M in length—3.15 to 2.0 mm with Stickers—Base	600	625	645
8	Sheets—Galvanised Corrugated Defective or Rejected and Spotted—Full size 0.63 mm Base	785	810	830

1	2	3	4	5
<i>Part I-B—(Fresh Unused Industrial Scrap)</i>				
16	Sheets, Black Cuttings, Fish-tails and clean-cut mixed 150/610 mm wide—			
	(i) 2.25/1.25 mm Thickness	445	470	490
	(ii) 1.1/0.80 mm ..	400	485	505
	(iii) 0.63 mm ..	525	550	570
	(iv) 0.50 mm ..	530	555	575
	(v) 0.40 mm ..	535	560	580
	(vi) 0.31 mm ..	540	565	585
17	Sheets, Black Cuttings, un-annealed clean-cut pieces 150 mm to under 10 up wide—Base ..	480	505	525
18	Sheets, Black Cuttings, 150 mm and up wide all fish-tails 3.15 to 2.50 mm thickness or mixed thickness ..	405	430	450
19	Sheets, Black Cuttings, 50 mm to under 150 mm wide-base ..	335	360	380
20	Sheets—			
	(a) Galvd. Plain cuttings of any or mixed thicknesses ..	500	525	545
	(b) Galvd. Corrugated cuttings of any or mixed thickness ..	550	575	595
<i>Part I-C—(Used Industrial Scrap)</i>				
13	(A) Sheets-Galvd. Corrugated or plain-mixed or unmixed thicknesses—			
	(a) Used but in very good condition, as good as new with only nail holes	765	790	810
	(b) Used-damaged but utilisable ..	420	445	465
	(c) Used-damaged unutilisable ..	295	320	340
	(B) Sheets, Black-plain or corrugated or panel sheets mixed or unmixed thicknesses—fit for use as sheet cuttings ..	335	360	380

The General and Special conditions of sale remain the same as before. This amendment takes effect from the 18th March 1961 and notwithstanding the rate at which an order has been booked for materials paid for shall apply to all deliveries effected on or after that date.

Sd/— C. V. RAMACHANDRAN
Price and Accounts Officer
for Iron and Steel Controller

[To be published in Part I Section 1 of Gazette of India Extra ordinary dated 28th August 1962]

GOVERNMENT OF INDIA
MINISTRY OF STEEL AND HEAVY INDUSTRIES
(Department of Iron and Steel)

New Delhi, the 27th August 1962
Bhadra 4, 1884 S.E.

RESOLUTION

Scrap Committee

No. SC(B)-20(2)/62.—The Government of India in their Resolution No. SC(B)-24(7)/60 dated the 29th April 1961 constituted a Scrap Committee. After examining the various problems connected with Iron and Steel Scrap listed in the terms of reference, the Committee has submitted its report.

2. The main recommendations of the Scrap Committee are as follows:—

- (i) There should be an over-all quota for exports of scrap. Export of heavy melting scrap and No. 1 sheet cuttings including main producers' skull scrap should be completely banned. Export of other types of scrap, like 2, 2A and 3 class of sheet cuttings and high silicon sheet cuttings should be freely permitted upto the overall ceiling. Export of turnings and borings should be permitted only at the discretion of the Iron and Steel Controller. So far as electric furnace skull scrap is concerned, there should be no ban on exports until the producers and furnace owners in this country are in a position to utilise this scrap.
- (ii) The present policy of no control on cast iron scrap, except for the stipulation that cast iron cuttings should first be offered to foundry Associations and then allowed for export if refused by them, should continue.
- (iii) The restriction on the export of stainless steel scrap may be lifted since such scrap cannot, at present, be utilised in the country.
- (iv) Imports of only certain categories of industrial and re-rollable scrap may be permitted at the discretion of the Iron and Steel Controller, Calcutta.
- (v) Price and distribution control on melting scrap should be removed altogether, while the control on industrial and re-rollable scrap should continue. The price control over all varieties of cast iron scrap should also be abolished.
- (vi) The present price and distribution controls for ingot moulds should continue.

- (vii) The freight rate of scrap should be re-examined so as to encourage collection. •
- (viii) Since there will be a surplus rolling capacity in 1965-66 no new re-rolling Mills should be set up.
- (ix) Immediate expansion of electric furnace capacity upto the limit set by Scrap availability should be considered. The furnaces should be distributed regionally taking into account the economic size of ten ton capacity following the method of continuous casting of billets.

3. Government, after careful consideration, have decided to accept recommendations (i), (ii), (iv), (vi), (vii), (viii) and (ix) above.

4. As regards recommendation (iii), Government propose to further examine the quantum of utilisation of stainless steel scrap in the country, in consultation with the Technical Consultants to this Ministry.

5. As regards recommendation (v) it has been decided that price and distribution control on all categories of scrap, other than fresh unused defectives detailed in Part I-A of the Scrap Schedule, re-rollable scrap (Part II of the Scrap Schedule) and Ingot Moulds in all forms, should be removed.

ORDER

Ordered that a copy of this Resolution be communicated to all concerned and that it be published in the Gazette of India Ex traordinary.

N. N. WANCHOO

Secretary to the Government of India